

Safe Lamp and Bulb Management

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How to Handle Your Waste Lamps and Bulbs

Nearly every Wisconsin business and institution generates waste lamps or light bulbs (hereafter referred to as "bulbs") that could harm human health and the environment if not properly handled.

State hazardous waste regulations prohibit businesses and institutions from disposing of waste bulbs in sanitary landfills if those waste bulbs contain heavy metals that exceed hazardous waste limits. These limits are determined by a common laboratory test known as the toxicity characteristic leaching procedure, or TCLP. (Note: Even waste fluorescent tubes advertised as passing the TCLP test still contain mercury. Mercury discharges to the environment are responsible for many of the fish consumption advisories posted for hundreds of Wisconsin lakes and rivers.)

Household wastes may be exempt from Wisconsin hazardous waste regulations.

However, this exemption applies only to household waste bulbs disposed of with other household waste taken directly to a licensed solid waste transfer or disposal facility. If a household waste is managed separately by a non-household member, the exemption no longer applies. [See s. NR 605.05 (1) (a) 1, Wis. Adm. Code.] Residents are still encouraged to recycle their waste bulbs and should check with local clean sweep programs to determine if they will accept them.

Businesses and institutions that do not recycle their waste bulbs may be considered generators of a hazardous waste subject to the hazardous waste rules in ch. NR 600-685, Wis. Adm. Code, or may be required to obtain hazardous waste storage, transportation, and other licenses or approvals from the DNR.

This factsheet is intended to provide instruction on how to properly dispose of old lamps and bulbs.

It is an interpretation of the Wisconsin Specific Universal Waste Guidance, which describes how universal waste handlers can safely store, transport, and recycle their bulbs. The guidance is intended to ease the regulatory burden for management of hazardous waste bulbs and other common (universal) and easily recyclable hazardous wastes.

The Wisconsin guidance is based on the federal Universal Waste Management Standards for Lamps (40 CFR 273), which can be found at www.epa.gov/epaoswer/hazwaste/id/univwast.htm



Definitions

Types of bulbs

Types of bulbs that contain toxic heavy metals, such as lead and mercury, at levels that can exceed hazardous waste limits include:

- Tube-style **fluorescent** bulbs, commonly used as overhead lighting in offices, now also come in compact shapes for a variety of home and office uses.
- **Mercury vapor** bulbs. These are the original high-intensity discharge (HID) lamps with blue-white light, originally used as farmyard lights.
- **Metal halide** bulbs. These are newer, more efficient HID lights found in homes and businesses.
- **High-pressure sodium-vapor** bulbs are white-yellow HID lights used for street lamps and outdoor security lighting.
- **Low-pressure sodium vapor** bulbs are orange HID lights used primarily in commercial settings.

Universal Waste Bulb Handler

A “universal waste bulb handler” is defined as a “generator of universal waste, or the owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler or destination facility.” [See s. NR 690.03 (11), Wis. Adm. Code.]

Many bulb retailers are now offering new fluorescent bulbs that they claim will not be hazardous waste when disposed. Even if the waste bulbs are in fact not hazardous waste, the Department *strongly recommends* that they be recycled because they still do contain significant amounts of mercury, and if broken will allow mercury to be released to the environment.

- The generator also must ensure that any landfill or disposal facility will accept wastes containing mercury. All non-hazardous mercury-containing waste bulbs can and should be managed for recycling in the same manner as described in this guidance.

Anyone who intentionally breaks, treats, or recycles bulbs is no longer a universal waste “handler” and is subject to full hazardous waste regulation [see s. NR 690.03 (11), Wis. Adm. Code], which may include having to use licensed transporters, submit annual reports, and follow other generator requirements. [See chs. NR 600-685, Wis. Adm. Code.] This includes businesses offering crushing and recycling services, as well as generators that crush bulbs on-site.

- If the waste bulb handler is subject to hazardous waste annual reporting requirements, universal waste bulbs should not be included on the annual hazardous waste reports. (This does not relieve generators of other hazardous wastes from any hazardous waste requirements.)

How to safely handle and store bulbs

General Waste Management Requirements for Bulbs

- It is the legal responsibility of waste generators to determine whether or not their solid waste is a hazardous waste. This determination can be made either by applying knowledge of the waste, or testing a representative sample of the waste.

- Place waste bulbs in the box in which replacement tubes or bulbs arrived, or in special cartons provided by the bulb recycler.
- Label cartons and boxes with the words “Universal Waste Lamps or Bulbs.”
- Store bulbs in a safe place to avoid breakage, and mark the storage area appropriately. A handler may store bulbs up to one year. Handlers must mark the date the bulbs were placed in storage on the cartons or boxes, or

keep records of when bulbs were placed in storage, to document the one-year storage limit.

- Separate bulbs broken by accident into a leak-proof container that will prevent leakage and releases of mercury or other hazardous constituents. If you cannot locate a recycler who will accept them, manage broken bulbs as hazardous waste.
- Do not place broken fluorescent bulbs in unlined metal containers. Metal containers will absorb mercury and may themselves become subject to hazardous waste requirements.

Collection and Transportation

- Most bulb recyclers offer transportation services. The transporter does not need to have a State of Wisconsin solid or hazardous waste transportation license. Waste bulb handlers may also contract with a common carrier to take bulbs to a recycler. Handlers may transport their bulbs themselves as long as precautions are taken to prevent them from being broken. Waste bulb handlers may collect waste lamps from several locations, transport them to a central facility, and store them there to facilitate recycling.
- Waste bulb handlers are not required to fill out a hazardous waste manifest if their bulbs are going to a legitimate recycler (destination facility). When transported, bulbs may be subject to US Dept. of Transportation requirements for hazardous materials as stated in 49 CFR. If the materials are listed in the hazardous material tables or appendices A or B, then the requirements of 49 CFR, starting with 172.200, must be followed. See <http://www.gpoaccess.gov/cfr/index.html>

in Your Area

Please visit the Markets Directory at the DNR website at www.dnr.state.wi.us/org/aw/wm/markets/introduction.html for a current list of bulb recyclers.

Businesses interested in offering lamp and/or bulb crushing and recycling services must comply with hazardous waste recycling requirements of ch. NR 625, Wis. Adm. Code.

The Department of Natural Resources does not specifically endorse or recommend recycling facilities. Therefore, make sure your chosen recycler meets all local, state, and federal regulatory requirements.

For more information

For more information on this subject visit the DNR Waste Program website:

- www.dnr.state.wi.us/org/aw/htm
- To read about all administrative codes pertaining to hazardous waste (including groundwater quality, household hazardous waste, and mercury, among many others), see:
- <http://www.dnr.state.wi.us/org/aw/wm/information/wiacssh.htm>
- To read about Wisconsin's hazardous waste rules (Chapter NR 605, Wis. Adm. Code), see:
- <http://www.legis.state.wi.us/rsb/code/nr/nr605.pdf>
- For a complete list of DNR hazardous waste publications, see:
- www.dnr.state.wi.us/org/aw/wm/publications/
- To read about Wisconsin's hazardous waste regulatory program, see:
- <http://www.dnr.state.wi.us/org/aw/wm/hazard/>

Finding a Bulb Recycler

For a link to Wisconsin government, including laws,

legislation, and announcements, see:

- <http://www.wisconsin.gov/state/home/>

How to Reach Us

For additional information on waste management requirements and recycling options, contact the waste management staff at these DNR regional offices:

- Northeast Region, Green Bay
920/492-5800
- Northern Region, Rhinelander
715/365-8900
- Northern Region, Spooner
715/635-2101
- South Central Region, Fitchburg
608/275-3266
- Southeast Region, Milwaukee
414/263-8500
- West Central Region, Eau Claire
715/839-3700

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This publication is available in alternative format upon request. Please call (608) 266-2111 for more information.

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This factsheet was written by the DNR's Bureau of Waste Management, 2003.

